

Art Unit: 2800

CLMPTO

09/24/02

AF

08/06/04

BEST AVAILABLE COPY

1-7 Cancelled

(8) A method for forming a connection within a multi-layer circuit board including a first pre-circuit assembly having a first conductive layer, and a second pre-circuit assembly including a second conductive layer, said method comprising the steps of:

forming an aperture within said first pre-circuit assembly;

Art Unit: 2800

aligning said second pre-circuit assembly with said first pre-circuit assembly such that a first portion of said second conductive layer resides above said aperture;

attaching said first pre-circuit assembly to said second pre-circuit assembly; and

inserting conductive material into said aperture effective to connect said first portion of said second conductive layer to said first conductive layer.

(9) The method of claim 8 further comprising the steps of:

selectively removing portions of said second pre-circuit assembly which are disposed above said first portion of said second pre-circuit assembly, thereby exposing said first portion of said second pre-circuit assembly; and

deforming said first portion of said second pre-circuit assembly, effective to cause said first portion of said second pre-circuit assembly to extend within said aperture.

(10) The method of claim 9 wherein said first portion of said second pre-circuit assembly is deformed by use of a punching process.

(11) The method of claim 9 wherein said first portion of said second pre-circuit assembly comprises a bridge portion.

Art Unit: 2800

(12) The method of claim 9 wherein said first portion of said second pre-circuit assembly comprises a tab portion.

(13) The method of claim 9 wherein said portions of said second pre-circuit assembly are selectively removed by use of an etching process.

(14) A method for forming a connection within a multi-layer circuit board, said multi-layer circuit board including a first pre-circuit assembly including a conductive core member, a dielectric member which is attached to a top surface of said conductive core member, an adhesive layer which is coupled to a top surface of said dielectric member, and a second pre-circuit assembly including a second core member and a first and second conductive member which are respectively attached to a top and bottom surface of said second core member, said method comprising the steps of:

selectively forming at least one hole through said first pre-circuit assembly in a location where a connection to said conductive core member is desired to be formed;

registering said second pre-circuit assembly with respect to said first pre-circuit, effective to cause a portion of said second conductive member to reside above said at least one hole;

attaching said second pre-circuit assembly to said adhesive layer; and

Art Unit: 2800

selectively inserting a conductive material within said at least one hole, effective to connect said portion of said second conductive member to said conductive core member.

(15) The method of claim 14 further comprising the step of:

selectively etching at least a portion of said second core member.

(16) The method of claim 14 wherein said conductive material comprises solder.

(17) The method of claim 14 wherein said solder is selectively inserted into said at least one hole by use of a compression printing technique.

(18) The method of claim 14 wherein said conductive core member is manufactured from a copper material.

(19) The method of claim 17 wherein said first and said second conductive member each comprises a copper member.

(20) The method of claim 19 wherein said second core member comprises an aluminum member.